

# **DECONVOLUTION SEARCHER FOR WIRELESS COMMUNICATION SYSTEM**

## **ABSTRACT OF THE DISCLOSURE**

Disclosed is a method, an apparatus and a mobile station embodiment to receive a CDMA signal from a radio channel. The method includes inputting a CDMA signal received through the radio channel to a searcher and processing the received signal in the searcher to obtain a multi-path profile of the radio channel. Processing includes at least partially removing an effect of at least one of a transmit and a receive filter on the multi-path profile. In one embodiment at least partially removing the effect of at least one of the transmit and receive filter on the multi-path profile involves passing the received CDMA signal through an N-tap Finite Impulse Response filter having a filter characteristic that approximates an inverted amplitude response of the at least one of the transmit and a receive filter, while in another embodiment software external to the searcher is used to process the searcher output data.